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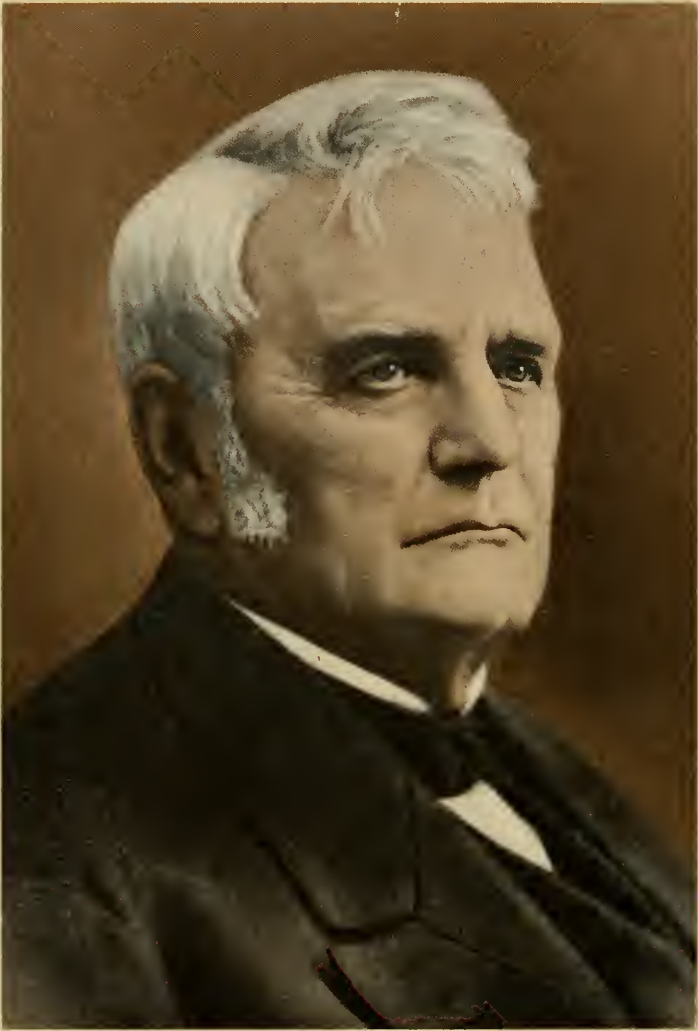
John Deere
BY NEIL M. CLARK

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ILLINOIS HISTORICAL SURVEY

John Deere



JOHN DEERE

John Deere

HE GAVE TO THE WORLD THE STEEL PLOW

BY NEIL M. CLARK

ILLUSTRATED BY DALE NICHOLS



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★ C O N T E N T S ★

I	A BLACKSMITH	7
II	1837 - RUMBLES OF PROGRESS	12
III	JOHN DEERE'S ARRIVAL	19
IV	FIRST DAYS IN GRAND DETOUR	29
V	THE BROKEN SAWMILL BLADE	34
VI	AN INDUSTRY BEGINS	39
VII	AN INDUSTRY GROWS	47
VIII	AN ITEM OF MAY 18, 1886	57
IX	"THERE IS THE MAN HIMSELF"	59

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His hair was curly, his eyes steel-blue, his muscles powerful in the glow of the forge fire; and when he heard the screech of ungreased axles in worn hubs, signifying the passing of settlers' wagons, he let go the bellows stick, laid tongs aside, strode to the door of the shop, and, standing bareheaded in April sunshine and a leather apron, cast a critical eye over the newest newcomers to the West of golden promise. Even to the experienced blacksmith who had seen many such, they looked a weary, road-worn lot. Five canvas-covered wagons; tired ox-teams, heads adroop; a pack of flea-bitten dogs; wilted women with small children in the drivers' seats; bedraggled fowls in crates; half- or full-grown boys and maids peering curiously through flaps of the canvas; a calf or two tied behind; gaunt men afoot alongside; patched harness; worn rawhide whips . . .

The wagons creaked to a halt, and a clerk in front of Dana & Throop's store hailed them cheerily. "Whereabout be you from, strangers?"

The tallest of the wagoneers made reply. "We're out of Delaware County, New York, mister. Seven weeks and two days on the road, so far, and not once have we slept in a house since we started. What place might this be?"

"It's called by the name of Grand Detour, sir. A name from the French, signifying the big bend of the river which you see at this point." He waved an arm around. "Have you folks made a choice of place that you're bound for?"

The tall man cracked his whip idly against a near wheel. "We did set out for a town some neighbors of ours have settled at, called Buffalo Grove. You know it? But we'll be settling ourselves down, most anywheres soon, I reckon, if only to give our womenfolk a rest from the riding. What's land like, hereabouts?"

"This, sir," said the clerk, puffing pompously as a crowd of listeners began to gather, "is a place created by the Almighty as a special paradise for His children. He made it without trees ready for ~~the plow~~, but with timber near at hand in groves for every need. He made it flat enough so that no man need stand on his head to farm it, but gently rolling for drainage. Therẽ is no part of these United States, I daresay, more delightful to the eye or more salubrious. You could make no mistake in settling on this very spot or as near to it as you can get. The river that you have just crossed, as you doubtless know, is called the Rock; one of the great rivers in this mighty state of Illinois. Already its bed is being prepared for steam navigation to this point and beyond, connecting with the Mississippi,

and providing an unexcelled route all the way to New Orleans and even beyond the sea."

Concluding this lengthy outburst, the clerk did not pause even for breath. "As for Grand Detour itself, sir," he went on, "town lots are already selling here for \$100 to \$400, depending on the location, and in another five years, they may well be selling for \$1,000 to \$5,000. We expect to see this place blossom into a great city. Sir, this store in front of which I stand will sell nigh onto \$30,000 worth of merchandise this very year . . ."

It was not the first time the tall stranger from the East had heard tall talk. And yet—he loved it. His dull eyes glowed. The sunset, and dreams of fortunes to be had through the magic of a nation's expansion, just as the clerk suggested, were what had brought him and his family and neighbors on their long, hard journey.

"Is the best land spoken for?" he asked wistfully. "It seemed to us from the last summit that the foot of man had not stepped here as far as the eye could see."

"Settlers choose the hollows in this country, stranger," the clerk informed him. "You wouldn't see them. They are here, nevertheless. And more are coming every day. The land is filling up so fast, it's hard to believe. But you are in time even now, if you act at once; you may still secure choice locations."

"How is the soil for crops?"

The clerk threw back his head and laughed. When he spoke again, he addressed the local audience instead of the stranger. "He asks how the soil is for crops!" he exclaimed. "Brother—" facing the stranger once more, "—I'll tell you how the soil is for crops. Scratch the prairie anywhere you like, and drop your seed; and when autumn comes,

you may harvest fifty bushels per acre of the finest prairie corn . . .”

“Yes,” spoke up a voice from the crowd derisively, “and when you try to plow the same field next year, may heaven help you! You had better move you on to a new farm. For the plow is not made that will scour in this prairie soil after the first year.”

The mover cast a clouded look at the speaker, then at the plow conspicuously tied to the side of his wagon. “*That* plow,” he said, “was made after the patterns of Jethro Wood. I guess you have heard of *him*. They claim it will turn a clean furrow in any soil.”

“Not prairie soil after the first year, it won’t. Nor will any plow. My advice to you, my friend, is to strike north and keep going till you come to timber, or head back where you came from, before you bury any of your time and labor, and maybe your own body, too, in this accursed spot. That’s what I’m about to do—go back; it’s a lesson that has cost me dear to learn, but the prairies were not made for the plow and crops. If they were, why don’t trees grow on ’em?”

The clerk, a born booster, had been nearly bursting for a chance to chip in again. “Don’t you listen to him, sir!” he said earnestly. “It’s true that this soil needs a special kind of plow. But we have a man in this town, a mechanic newly come out here from Vermont, who has given study to the matter and will make you a plow that will turn prairie soil, no matter how many times it has been plowed before, and do the slickest kind of a job of it. What do you say, blacksmith?”

All eyes turned toward the big man with curly hair who stood bareheaded and silent on the fringe of the

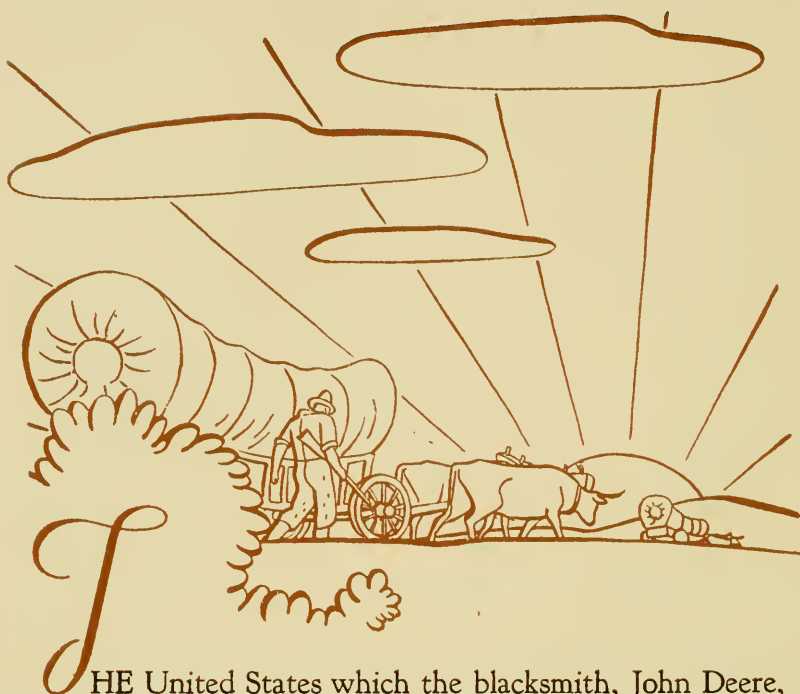
crowd. The latter shook his head and smiled slowly.

"I wouldn't want to make a sure promise before I knew I could perform," he said.

His eyes, however, thoughtfully rested on the far bank of the river. Soon now, he privately knew, he would be ready for a decisive test of an idea that had come to him. His forge fire had burned early and late, his hammer had shaped the precious steel with infinite care. He even knew the field, yonder, claimed under preemption rights by Lewis Crandall, where he meant to make his first test. Reflecting so, he was reminded that he still had more work than he could do, and that his fire would be cooling. He turned his back abruptly on the crowd, and went inside his shop.

"Who," asked the tall stranger from Delaware county, New York, "might *he* be?"

"Name of John Deere," said the clerk . . .



THE United States which the blacksmith, John Deere, knew in 1837, the year of the incident just narrated, was very different from what it is today, after a century has passed. And, though neither he nor anyone else guessed it, the blacksmith, by his own efforts and what came of them, was to be responsible for some of the amazing changes that occurred.

The country, at that time, was literally growing like a weed. New Englanders by the thousands had packed up and headed for the sunset. From overseas, from Germany, Ireland, and the Scandinavian countries particularly, more were coming on every ship. The great West, with its lure and promise, and with more than little boisterousness, had burst with full force upon the con-

sciousness of the older part of the young nation. Already it had given the uneasy and more conservative East a president, in the person of Andrew Jackson. "Old Hickory" was even then completing his second term in office.

In Illinois, Indian warfare was only just over. Barely five years before, a physically powerful but ungainly captain of volunteer troops raised to repel the tomahawk-and-fire invasion of the old Sac chieftain, Blackhawk, had marched through country very close to where the blacksmith's forge in Grand Detour stood; and once, not knowing the proper command to deploy his men upon approaching a narrow gate, had relied on the wit of the prairies and said:

"This company is dismissed for two minutes, when it will fall in again on the other side of the gate."

That captain's name, unknown as yet to more than a few, was Abraham Lincoln . . .

The right or wrong of slavery was more and more being discussed. Abolitionists were crying their fiery wares. When certain citizens of Maine allegedly abducted a slave from Georgia, and the governor of Maine refused to surrender the abductors to the governor of Georgia, the Illinois Legislature took official notice of the incident by resolving: "that . . . a free state or its citizens ought not to interfere with the property of slaveholding states."

Travel was still mostly by wagon or horseback, stage-coach, canal boat, lake or river steamer, and sailing schooner. Railroads were just beginning. Projects for them were in the air everywhere. "Internal improvements" was a magic phrase with legislators, and millions of dollars had been voted or were about to be voted in Illinois for canal construction, river improvement, railroad construction.

Life had begun to be speedier, more tense, more exciting than in the Colonial period. Men stepped faster. Most of them dreamed of fortunes waiting to be made by anyone who "struck it right." Boasting was becoming almost a universal habit; braggart talk hit the sky and bounced. The land speculator had his day and lived in pink clouds of glory. "100 Town Lots," one of them, named Gay, advertised in the *Sangamo Journal* on August 5, 1837, hoping to lure buyers to his private town, Huron. "In the event of the construction of the canal," the optimistic real estater declared, "Huron will possess the advantages of an immense water power that cannot fail to build it up at once into a flourishing and populous town." (Today, this place of fabulous possibilities does not exist on the Illinois map!)

But men, like trout, rose greedily to such lures. Land hunger was universal. It was reckoned the speedy way to wealth. Those who had capital to invest, bought large tracts and held for the rise that an influx of population was expected to bring. There was high precedent for the practice. George Washington, himself, at one time had held more than 200,000 acres of western lands, anticipating a speculative return. Patrick Henry's land holdings made him wealthy. Robert Morris, financier of the Revolution and the country's second-richest man, bought millions of acres and multiplied his fortune by selling on the advancing market.

For those who had little or nothing to invest, save muscle and will, it was a hard, pioneer life. Charles Dickens, making his first American tour in 1842, was appalled and disgusted at the swampy villages he saw, the practice of tobacco spitting, and inconvenience (to him) of stage coaches, canal boats, river steamers, frontier hotels. The great novelist failed to comprehend the epic

movement under these crudities. Peter Cartwright, famous itinerant Methodist minister of that day in north-western Illinois, eyed them more sympathetically. He described the life: "New settlements, formed and forming; hard, long rides, cabin parlors, straw beds and bedsteads made out of barked saplings, and puncheon bed-cords. But . . . the men were a hardy, industrious, game-catching and Indian-driving set. The women were also hardy; they would think no hardship of turning out and helping their husbands raise their cabins, if need be; they would mount a horse and trot ten or fifteen miles to meeting, or to see the sick and minister to them, and home again the same day."

If talk among these poorer folk who did the spade work of pioneering was often big, it helped to bolster spirits like whistling in the dark. And besides, the dullest could see that under the froth was substantial drink, behind the bragging was enough glittering performance to persuade each newcomer that *he* might receive fortune's next kiss. Even a poor man might become rich if he were a good picker. Had not Astor, who landed almost penniless in New York, died worth \$20,000,000? Had not miserly Stephen Girard amassed \$6,000,000? Town lots in the mudhole called Chicago might sell at the utterly ridiculous figure of \$100 per front foot, but who could say that even that was too high a price to pay? Had not Gurdon S. Hubbard, ex-Vermont, in 1835 became part owner of an 80-acre tract there, near the center; and had he not, a few months later, sold *half* of it for \$80,000? The wildest dreams might not be too wild . . .

Already, too, the era of invention, which was to make the Nineteenth Century so notable, had begun. Fulton's

first steamboat had traveled successfully up the Hudson in 1807, and a quarter of a century later the tonnage of steamboats operating on the Mississippi and tributary western waters, was nearly half that of the whole British empire. Eli Whitney's cotton gin was revolutionizing the South's chief agricultural industry. The telegraph had not yet arrived but was soon to come. Trains built to travel at the dizzy speed of ten miles per hour, were already hauling thousands of adventurous spirits who dared to ride on them. The first postage stamp, early symbol of a new era of more rapid communications, was issued in England in 1840, and the idea was to be adopted in the United States seven years later.

Yet, despite all the bustling activity, the transformations later credited to invention and industrialization had little more than begun. Manufacturing was in its infancy. New England factory owners worked girl employees twelve and fourteen hours, from five in the morning till seven at night, and piously protested against any reduction in hours, saying that the morals of the girls would certainly suffer "if longer absent from the wholesome discipline of factory life"! The hardware store of today was still a thing of the far future. Hundreds of machine-made articles utterly common now were unknown then. Kitchen knives, and nearly all utensils of household and everyday use, were still made to individual order by the local blacksmith. Indeed, the blacksmith was one of the most important individuals in every community, ranking but little below the flour miller and the sawmill owner.

The nation was still overwhelmingly agricultural, too. Three years later, in 1840, the census was to show a total working population of 4,798,000, of which 3,719,000 were engaged in agriculture; and even so, the nation was not

agriculturally self-sufficing. The time was yet distant when the efforts of a single farmer, multiplied many fold by machinery, could produce enough to support far more people than the members of his immediate family. In 1840, a farmer plowed only about an acre a day; he could cradle and bind only about an acre of wheat; and he did other work at a similar rate. Figures have been compiled to show that in the year 1930, assuming that a farmer used the most modern equipment available in that year, the major operations in growing and harvesting an acre of wheat yielding 20 bushels, required total labor of but 3.3 man-hours. But in 1830, with the most modern equipment *then* available, the same production called for 57.7 man-hours of labor. These studies also show that if the price of wheat were \$1 per bushel in both years, the farmer's 1930 net cash return per acre was \$6.06, whereas his 1830 net cash return was only 34.7 cents.

Such changes a century—an invention—were destined to effect.

The fact is that, in 1837, agricultural implements were little changed from ancient and medieval times. A plowman of the time of Christ, scratched the soil of Egypt or Roman Italy with an implement not much cruder than many farmers were using for plows in the United States in the years when Andrew Jackson was president. The harvesting of crops then and in ancient times was also about equally crude. The wheat farmer used a walking plow, a sack over his shoulder instead of a drill, brush instead of a harrow, a sickle, flail, and forks for threshing and stacking, and shovel, sheet, and measure for winnowing. But . . . the rumble of great changes had begun to be heard. Invention was about to wave its magic wand. Already, in the year

1831, Cyrus McCormick had invented a mechanical reaper to cut grain, and it actually worked. And, in the year 1837, in the little village of Grand Detour, on the banks of the Rock River in Illinois, John Deere in his tiny blacksmith shop . . .



WAIT! Who was this blacksmith, Deere? Whence had he come? What was he doing on a frontier where so short a time before, the Indian war whoop had curdled the blood of far-scattered first settlers?

To be brief about it, he was a Vermonter who was born on February 7, 1804, in the village of Rutland, the son of William Ryland Deere, a merchant tailor who had come to the United States from England, and of Sarah Yates Deere, the daughter of a British soldier who fought the Yankees in the Revolutionary War but stayed to become a citizen among them when the war was over. Though Rutland was John Deere's place of birth, he lived from the beginning of conscious memory, and during all his early formative years, and until he was of voting age and past, in Middlebury, a few miles from Rutland, northerly down the valley of Otter Creek. Here, the boy grew up and became a man.

Here his character was set in the mold it was to take and keep. Vermont shaped him . . . before the West took him.

Middlebury lies in rough country surrounded by hills. A boy on an occasional day of freedom could climb and look out over a tumbled, irregular landscape, with a procession of mountains, Breadloaf, Grant, Abraham, Ellen, ten miles to the East; and to the west, the blue of Lake Champlain. His eye could pick out, in far-flung oceans of green, great island wastes of "deadenings"—for where once this all had been continuous forest, farmers had girdled trees by the millions to kill them and let the sunshine in, so they could scratch the ground and plant. Winters in that country were long and howling with snow, bitter with cold. In February or March, a boy exploring in the woods might find a sugar camp and linger in warmth by the fire to watch the sap "boil down," and to get a taste of the maple sweetness. In summer, Otter Creek, slothful for most of its ninety-mile length, slow to reach flood stage after rains and thaws, but swift enough in the rapids at Middlebury, furnished a boy the swimming and fishing he wanted. And (important to the growing boy as a sense of responsibility began to develop) the Creek furnished excellent sites for factories and "mechanic establishments."

John Deere was eight when his father left his family at Middlebury and set out for England. Why he did so is not entirely clear. One tradition is that he went to claim an inheritance; another, that he went to buy goods for his tailoring shop. No matter. He went. While waiting at the port for his ship to sail, he sat down, perhaps with a tight lump in his throat, to write a letter to his little boy, John, youngest of his four children.

"Take good care of your mother," he said.

The letter, quaint and formal, has been preserved. It was the last word the family ever received. William Deere's trunk arrived in England. But he himself was not aboard. Was he swept overboard in a gale? Did some other strange mishap overtake him in those days when vessels spent weeks, sometimes months, crawling across the treacherous Atlantic under sail? Neither widow nor son ever knew.

Sarah Deere carried on her husband's shop. When John was a grown man, Sarah died, in 1826. But long before her death, he had begun to take his destiny firmly into his own hands. Unknown to her, he obtained work grinding bark for a Middlebury tanner, and surprised her by bringing home a pair of shoes and a suit of clothes as pay. She had wanted him to study at Middlebury College which was one of the two higher institutions of learning in Vermont at that time; and he did so for a very brief time. But a sense of the practical rather than the theoretical asserted itself in him strongly even then, and almost at once he chose another kind of training by apprenticing himself to a certain Captain Benjamin Lawrence of Middlebury, to learn the blacksmith trade.

Earlier, we commented briefly on the importance of the blacksmith in the economy of the nation a hundred years ago. He was as ubiquitous as the garage mechanic of the present day, and even more necessary; for he forged the tools needed for the very maintenance of life. He shod the oxen—hoisting them clumsily aloft in his ox-frame, and fastening their vicious hoofs during the process. He made the ox-shoes, even the nails. He did the iron work on wagons, carriages, stagecoaches. Whatever was to be wrought in iron, he wrought. A community was fortunate

to have a blacksmith who, having learned well his trade, honored it by honest practice.

Captain Lawrence was such a blacksmith, a strict master, but the kind for a boy to have; and John Deere proved an apt apprentice. His wages were such as were paid to apprentices at that time; \$30 for the first year, and \$35, \$40, and \$45 respectively for the succeeding years. Under his master's eye, he acquired the art of making his forge fire neither too great nor too small. He learned the maxim, "Strike while the iron is hot"—and the reason for it. He discovered why it was better always to finish a job on the first heat, if possible, and to avoid reheating. He learned that it was not how hard the blow of the hammer that mattered, but how true. Skilled workmanship was the master's creed, and became the boy's delight. He gained proficiency in sharpening farmers' plowshares, shaping axe-heads, repairing scythe knives. He took even more pleasure in fashioning new tools, better adapted for familiar tasks. He could, in a word, do more than make sparks fly from the anvil. He could create . . .

John Deere's apprenticeship ended in 1825, and for the next ten years he worked for others or in shops of his own in various parts of Vermont, never staying very long in one place, and never straying very far from his birthplace. His first job was with Wm. Wills and Ira Allen of Middlebury, and his wages were \$15 per month. The following year, he traveled north as far as Burlington, then a mere village, where he was employed to do the wrought-iron work on a sawmill, and later on a flaxmill. After that, he was a partner for a while in a shop at Vergennes, a busy town of stone stores and the pleasant sound of industry along the waterfront; it was located near the mouth of Otter Creek

and the shore of Lake Champlain, and proudly called itself a seaport. And then he had shops of his own at Leicester and Hancock. It was during these years of frequent moves that he more or less broke from the strict routine of ordinary blacksmithing (shoeing horses "all around" for \$1) and began to design and make tools not only to order, but also for sale, foreshadowing what was to come later. The United States was emerging into a new industrial era; John Deere moved on the manufacturing tide. His shovels, hoes, and pitchforks were coveted by Vermont farmers because they were sturdy and handled easily. Late in life, on a visit to that state, he was delighted to discover some of the very shovels he had wrought, and to learn that they had seen steady service for nearly three-score years. He also made hay forks and manure forks, anticipating demand and keeping them in stock.

At Burlington, at Vergennes, and often in the travels occasioned by his trade, John Deere looked out over the waters of Lake Champlain, saw the black smoke of early steamboats, caught in his nostrils the scent of wide lands beyond. In his shops, on the road, he often heard news about the canal which had been dug, and of boats which sailed direct from Whitehall on lower Lake Champlain, to Waterford or Troy on the Hudson; and of the still greater canal with which it connected, the Erie, which DeWitt Clinton had pushed boldly right across the state of New York, connecting the city of New York with the Great Lakes by water, reducing freight rates fabulously from \$100 per ton to \$5, carrying uncounted thousands of settlers into the great fertile West, bringing golden tales back as well as wheat, flour, pork, potatoes, lumber, and other products of the market-hungry West. Vermont heard these tales; many were stirred with a vague unease of their own hard

climate and soil. It was slow, hard work getting ahead in that grim region. John Deere heard the tales, and he, too, was stirred.

Then, of a sudden, the West was brought very close to him. A Vermont ex-major, Leonard Andrus, sold his store and went out to Illinois in search of better health and a sight of the country. Andrus struck out with a party bound from St. Louis to the famous lead mines located in the northwestern part of the state, at Galena. But he left them about midway. In the neighborhood of the Rock River, he touched a section of country in which scarcely any white man then was dwelling. He decided to explore it. He may have smoked a pipe with John Dixon, who kept the ferry and a combined tavern and store at the junction of Kellogg's Trail and the trail from Chicago; and from Dixon, he may have gleaned much information about the Indians and how they had been pacified, and how the land was rich and hungry for settlers. He paddled on up-river, past wooded islands and bluffs and, eventually, landed at the spot which even then was called Grand Detour. He saw the abandoned shack of an old-time fur trader, one LaSallier; but no other white man's dwelling. Friendly Winnebago Indians gathered around while he cooked his supper. The peace of the prairies entered into his soul. Their promise persuaded him.

"Here," he said to himself, "I will build a city."

That was the year 1834.

He went back to Vermont and told friends many glowing tales of what he had seen, and of the particular spot he had chosen for a settlement. A few of them were induced to come out with him when he returned the following year to this new Eden. One of these was the man who became

his father-in-law, Amos Bosworth. Now, Amos was the owner of a stagecoach and freighting business, and John Deere did work for him. They were close friends. They talked the venture over together. If Amos Bosworth could pick up and go in this fashion, why not *he*? . . . Thus, from man to man, passed the contagion of the new West.

All details of John Deere's trip to the West, which he undertook in the year 1836, are lost in the terse description which he himself gave of it many years later—"by canal and the lakes to Chicago." Yet, that trip must have been as full of color and vivid life and strangeness for him as was the first exploration of Antarctica for Admiral Byrd. He went alone. He had been married, in 1827, to Demarius Lamb, a girl from the town of Granville over east of the Middlebury Mountains. But he left her at home while he went ahead to see whether he should bid her follow. We may imagine his journey; the busy waters on which he traveled across New York state—crowded packet boats of 40 tons, drawing 8 inches of water, and "replete with elegant accommodations" for travelers—the haunting horn of the steersman ("snarling his horn in his chin whiskers and blowing like they'd reelected Jackson!") heard at all hours calling for lock tenders to let the boat through—the crack of the blacksnake whip over the backs of straining mules on the towpath—other boats, packets or freighters, passed or passing, vaguely seen in mist or at night, cabins lighted, smoke trailing, the smell of cooking—the wonder of the great aqueduct over the Genesee River, 802 feet long—the Cayuga marshes, often flooded and impassable—odors of strange cargoes—heroic fights staged by ambitious bullies of the big ditch—songs:

"I've got a mule, her name is Sal,

"Fifteen miles on the Erie Canal.

"She's a good old worker and a good old pal,
"Fifteen miles on the Erie Canal . . ."

And at last, Buffalo, the first sight of the wide waters of Lake Erie, white steamers leaving for the further West, others arriving from the West . . . bustle, hope, big talk, big doings, a nation on the move.

The blacksmith from Vermont, thirty-two, mighty of muscle, steady of eye, fired with ambition and hope, stood along the canal-boat rail *en route* and heard such conversation as this:

"It's powerful easy on these waters for you an' me today, stranger. We just float an' git thar. But I can tell you we sweat in the building of the big ditch a dozen years ago."

"Aye?"

"Aye. I had the contract for this very stretch. Shovels, axes, spades, wheelbarrows, scrapers—that's all we had to work with, an' they was too benightedly slow for us. We had to cut through matted tree roots two inches thick. Millions of 'em. Yes, sir! I myself, sir, had a plow built—"

"A plow?"

"A plow, sir, the like of which was never seen before. With a colter ahead of the share. Took three teams of oxen to draw it. A regular master of a plow. Oh, we went through. But the grief we had! The colters and shares we ruined!"

A better plow. The blacksmith was interested in that . . .

Beyond the Erie Canal, John Deere sailed up the lakes past Detroit, through the Straights of Mackinac, down to Chicago. Already, this remote village was beginning to boom. In that year, the arrivals of vessels numbered 49 steamboats and 383 sailing ships. A census to be taken on

July 1, 1837, disclosed a population of 3,989 whites and 77 blacks, plus "104 sailors belonging to vessels owned here." There were 398 dwellings, 29 dry goods stores, 19 grocery and provision stores, 26 groceries (dispensing drink), 17 lawyers' offices, 5 churches. The mud's depth varied with the weather, but was always spectacular. John Deere took a good look at the marshy town, whiffed it, disapproved. They would have been glad to keep him there. Skilled mechanics were scarce. But he hurried on by the westerly road, the road that was little more than the wagon ruts worn by the Army during the Blackhawk War. And so, some time in 1836, he arrived at the settlement founded by Andrus and his friends at Grand Detour.

He arrived with \$73.73 in his pockets; part of this modest sum in the big copper cents of the day, measuring $1\frac{1}{8}$ inches across, and in the copper half-cents which were but little smaller. Some of the prices at the time were as follows:

Ferry fare (man afoot)	12½ cents
Meal of victuals	37½ cents
Night's lodging (tavern)	25 cents
Butter (pound)	12 to 18 cents
Sugar (pound)	4½ to 15 cents
Potatoes (bushel)	50 cents
Candles (dozen)	31¼ cents
"Thick boots" (pair)	\$4
Hat	\$1 and a shilling

To his new home John Deere came, perhaps on a summer evening, while a black crow in the twilight winged toward a lightning-riven oak. Perhaps a whippoorwill called. Gentians, blue and purple, and snowy-white asters bloomed underfoot. Dim candlelight glowed from the windows of

the tiny settlement. Men in homespun gathered in eager talk on the stoop of the store. Over all, like a blanket, hung the quiet of the great prairies. A quiet, however, that was quiveringly aware of the kick of the future in the womb of the present.

A century has passed since his coming. Grand Detour is still a tiny village snuggled in the bent elbow of the river. It drowns now, whether under summer suns or winter snows, asking only to be undisturbed. But then, it lay in the direct path of a United States coming of age, in the very rip tide of invincible advance . . .



JOHN DEERE brought the tools of his trade with him, or at least those most essential; for no sooner had he arrived, than he was asked to repair a broken pitman shaft in the sawmill on Pine Creek nearby. He needed a forge for this, and there was none. So he built one in a hurry, using stones picked up along the river; clay serving for mortar. Within two days, the shaft was repaired and the sawmill was running again, ripping out boards for the homes waiting to be built; and the community had learned that it now had a mechanic who knew how to use tools and should be able to serve them well.

Right from the first, the Vermonter had all the work he could handle. Farmers who had been wishing for a blacksmith but had done without because of the 40-mile trip to the nearest shop, dumped their broken clevises, trace-chains, etc., on his floor for prompt repair. He built a

little shop in Grand Detour, and near it a small snug frame house, 18 x 24, divided into five rooms, with a fireplace in the living room, a steep stairs, two upstairs bedrooms. The house, restored, still stands. It reminds a visitor strongly of a white cottage in some New England town. To John Deere's wife, who made the long journey to join her husband in 1838, it must have seemed cozy, comfortable, homelike, even on this far, strange frontier. There is a tradition concerning her arrival. She did not come by canal, as he did, but in a mover's wagon from Hancock, Vermont, to Buffalo, New York, thence by lake steamer to Detroit, and thence overland by wagon again; and most of their household goods and her brother-in-law, William Peek, came too, also the three daughters and two sons of John Deere. It was a terrific, six-weeks' journey. Stepping down at last from the wagon that brought her, she handed her husband a bundle that squirmed.

"Here, John," she said, "you hold him a while. I've carried him all the way from Vermont!"

It was their year-old son, Charles, whom John had never seen. The baby was to grow up and play an important part alongside his father . . .

Very soon plows began to absorb more and more of John Deere's attention, for the reason that the plow was the all-important implement of settlers; and the plows they had were giving trouble. In the winning of this continent from Atlantic to Pacific, the man with a rifle came first. He walked softly; the thunder of his gun soon faded; he left few traces of his passing. Next came the man with an axe and a plow. The land changed under his hand. It was only when these forerunners had gone ahead and prepared the way, that the pioneers with steel rails, the merchants,

manufacturers, and all others who constitute modern civilization, began to pour into the wilderness and fill it up.

At first, the axe was all-important. The eastern part of the country, as far west as Ohio and Indiana, was densely wooded, and the trees had to be cleared or killed, before the plow could do its part. The prairies, however, were different. They were not forested, except in scattered groves and along the rivers. Even the groves, when the first settlers arrived, were clear of underbrush, kept so by annual spring fires. The eye traveled straight ahead with little obstruction through marching rows of tree trunks. There was ample timber, however, for building, for fences, and for firewood. An early writer says, of the country in the immediate vicinity of Grand Detour, that in addition to the river timber, ". . . which extends from one end of the county to the other, on either side of the river there are 21 groves, containing from one-half to six sections, or from 350 to 3,840 acres of timber each; and so distributed over the whole as to accommodate every township in the county . . . "

An ideal arrangement, a delightful-seeming land to settlers who had known the hardship of clearing every acre and pulling hundreds of stumps in order to have a few acres free for the plow. Here a plow could travel almost as far as the eye could see, over a gently-billowing landscape, and never turn out for a stump or strike a buried tree root.

But in every ointment there must be a fly. The prairie farmers' ointment had a big one! . . .

Plows, like most other agricultural implements shortly before that time, were but little better than their medieval predecessors. Much of the early plowing in the United States was done with implements that were hardly more

than pointed sticks, or tree roots trimmed to shape and pointed with crudely-hammered iron shares. But at about the beginning of the nineteenth century, invention turned to the improvement of the plow. Considerable advances were achieved. The record shows that the first cast-iron plow in America was produced by one Charles Newbold, about the year 1796. He is said to have spent a fortune developing his plow, and to no personal advantage; for farmers conceived the strange notion that cast-iron poisoned the soil, impaired fertility, encouraged weeds.

This notion gradually wore itself out, and other inventors took up where Newbold left off. Versatile Thomas Jefferson interested himself in working out what he considered the proper design for a moldboard; however, he never incorporated his ideas in an actual plow. Daniel Webster, momentarily forsaking oratory, tried his senatorial hand at the design and actual construction of an improved plow. Notable practical designers were Jethro Wood and David Peacock. "Clute" and "Wiard" were other familiar names on early plows that served their purpose more or less well in the East and found their way to the West, usually securely tied to the side of the covered wagon. Wood's plow, in particular, marked a great advance, because of the assembly principle; he made the iron portions in three parts instead of one—share, moldboard, landside—so that if a part were broken, it could be replaced without buying a new plow.

Now for the fly in the western settler's ointment. Prairie soils were different from those of the East. The latter, as a rule, were loose and somewhat pebbly. The earth fell away from the cast-iron share and moldboard, causing little trouble. The prairies, however, were composed of a sticky muck. Instead of falling away, the earth

stuck, great gobs of it, like balled snow on a man's boot-heel, till the plow could no longer move in the furrow. John Deere paused often with hammer poised over hot iron, to hear talk between farmers like this:

"These prairies are fine and dandy to look at with the eye. But they're no good to a farmer if he has to plow as I did today."

"How was that?"

"Two teams of oxen, *and* a paddle. The beasts pulled till they could pull no more. Then I'd yank the plow out of the furrow and clean it with the paddle. That soil, I tell you, sticks like brother Jonathan's gluepot. I spent a whack more of my time cleaning, I reckon, than I ever did plowing."

"I believe you. These prairies will never be farmed till we have a plow that scours."

"And that, to my thinking, will be never—"

And as the poised hammer finally fell on hot iron, it must have been singing a strange refrain to the blacksmith from Vermont:

A plow that scours—

A plow that scours—

A plow that scours.

A practical man, this blacksmith. One who thought in terms of present needs and materials, but of a product a step in advance. Could this thing that all the farmers wanted, be made? Could a mechanic who knew his trade thoroughly, build a plow that would scour? If so, how? Not a paper-and-drawing-board plow, but one built in a frontier shop, for frontiersmen to use behind sweating oxen, of materials such as might be found in a frontier community? . . .

It was a challenge.



IMPORTANT events do not necessarily reveal their full importance at the time. Significance grows in retrospect.

John Deere, on a brief visit to the sawmill which Leonard Andrus and others were operating at Grand Detour, spied a large circular saw blade of excellent Sheffield steel which had been broken and laid aside as of no further use. Nothing remarkable about that. But looking back, it must be reckoned a momentous event. For, instantly, into the blacksmith's mind flashed the thought that here was the material from which might be fashioned a plow that would scour. *Steel!* He noticed how the metal shone where it had been polished by friction with wood. Could soil, even sticky, black, prairie muck, cling to such shiny stuff? The mechanic's mind quickly visioned a plowshare and gently curving moldboard, made in one piece from the saw, from which, he imagined, the earth would fall away

crisply as it was cut. He was no dreamer. He was not thinking of the far future, nor of a world-girdling business that might be founded, but of the farmers from a dozen miles around, who related their troubles in his shop. He brought the broken saw to his shop, and proceeded to fashion the plow he had seen in his mind.

In later life, so far as known, John Deere never wrote any formal account of this first plow. He was not the writing sort of man. He did tell the story more than once, however, and some of those who heard him, wrote down their recollection of what he said. Details differ. But the following is one of the most authentic of these accounts:

"I cut the teeth off the mill-saw with a hand-chisel," John Deere said. "I cut a pattern out of paper for the moldboard and share." (One account says that he bent his first plow to a form which he carved out of wood.) "I laid the pattern on the saw and cut out around it with a hand chisel, with the help of a striker and a sledge. I then laid the piece on the fire of the forge and heated it, a little at a time, shaping it as best I could with the hand hammer." (According to one story, he used a wooden mallet to avoid denting the surface of the steel.)

"After making the upright standards out of bar iron," the account continues, "I was ready for the wood parts. I went out to the timber, dug up a sapling, and used the crooks of the roots for handles. I shaped the beam out of a stick of timber" (a fence rail, in one version) "with an axe and a drawing-knife. In this fashion, I succeeded in constructing a very rough plow."

A plow has been preserved at Moline which, if not the identical first one built by John Deere, was one of the very early ones. It is a century old, now. The wood of the white-oak beam is rot-pitted and worn with age. Some

of the parts have been roughly patched with wire and bolts. It is better not to look at it at all, unless, with the eye of an active imagination. For time has stolen its first magic. On that bright morning in 1837, when John Deere wiped the sweat from his brow with the back of his hand and said proudly, "She's finished"—it was an implement that caught and held the eye; new, sturdy, but light enough for a strong man to carry on his shoulder, the sun flashing from the polished steel as light from a mirror.

Farmers roundabout had heard what the blacksmith was up to. For the most part, they were skeptical, but willing to be shown. So, some of them, together with a number of villagers, assembled to watch John Deere's promised test of the new plow. Birds sang in the topmost branches of the village oaks that morning; fat gray-squirrels chased one another, chattering, from limb to limb. On the other side of the river, shadows of wind-blown clouds raced across undulating prairie fields fenced with rails. But the little group of interested spectators paid scant attention to these familiar things. They climbed into the boat with John Deere and his precious plow, or followed in other boats, and rowed across to the far bank, calling jokes to one another, warning the curly-headed blacksmith not to be too down in the mouth when his plow proved itself no whit better than the plows brought from "back East." John was not given to light talk, but he sent as good chaff as he received; and, single-handed, he carried the plow across his shoulder to the field where Lewis Crandall was waiting with the necessary horse, and where it was said that no plow would ever scour. This field was presumably part of the farm of 101 17/100 acres which Crandall sold five years later to Moses Hubbard for \$126.46.

Hitching up was no long process. In five minutes, all was ready.

"Want me to take her?" Crandall asked.

"I will," said John, "you drive."

Crandall slapped the reins on the horse's back. They were off. John Deere held the handles which he had fashioned from sapling roots and polished smooth. The plowshare bit deep into black soil. The horse put his withers into the pull. Soil began to cut and curl from the moldboard in a neat, smooth furrow. The spectators trudged behind, mostly silent, watching and wondering. After an eighth of a mile, they all stopped to appraise the performance.

fact
not
fact

"By cracky!" exclaimed one bystander, after a good look at the plow, "She's *clean*!"

There were several echoes of this approval—and some shouts of doubt.

"So *fur* she's clean," said one of the doubters, "but you wait!"

Crandall turned the horse, and they trudged back across the field, cutting another furrow. It was an ideal field, ideal weather for the test. The earth was still a little too moist; if ever it would stick to a plow, it should stick now. At the end of the second furrow, they stopped for a further examination. Moldboard was surprisingly clean. The gummy soil seemed unable to cling to it. A farmer turned to his neighbor:

"No need of your paddle with *that* plow!" he remarked triumphantly. "She moves right along, and polishes herself as she moves."

The one spoken to had broken many a prairie acre.

"Aye," he said drily, "so it seems, but I *still* don't believe it! . . ."

Round and round the field they went. Half a dozen times. A dozen. John Deere relinquished his place at the handles and let others take a turn at holding the plow. The worst pessimists finally had to admit that his plow scoured better than any plow they had ever seen. The optimists, on the other hand, were enthusiastic. John Deere himself was pleased; but not *too* pleased.

"I'm making you a present of this plow, Lewis," he said to Crandall, "for loaning the use of your land and the horse. But I'd like well to take it back with me to the shop for a few days. I doubt not I'll build another, and I will wish to study this. Maybe ways of improving it will occur to me."

So ended the test of John Deere's first steel plow. A truly memorable occasion in the history of agricultural implements in America; yes, in the history of America itself . . .



HIS man who had come out from Vermont bringing the tools of his trade and an ambition to better himself was more than a skilled mechanic and blacksmith, more than an inventor. He had, in addition, the business instinct. It was in him, not only to design a better plow, but also to give it to the world; as Henry Ford, a good many years later, was able, not only to conceive and create a low-priced car, but also to win mass distribution for it. In Vermont, instead of waiting for customers to order shovels or hay forks made, John Deere had followed the practice of making them up ahead and having them on hand when customers called. This was more like modern manufacturing and was an advance on the common practice of his time—most blacksmiths were content to make to order only. Indeed, the idea of manufacturing was not unfamiliar to Deere, for in Vermont, the great manufacturer of scales, Mr. Fairbanks, learning of his skill in making forks, had

urged him to move to St. Johnsbury and devote himself entirely to their production. So now, having seen his plow at least a qualified success, he resumed his practice of occupying his spare time by building in advance of demand.

According to records that have come down, he built only one plow in 1837. In 1838, he built three. During these years, of course, he was carrying on his regular trade of blacksmithing, and also did the entire iron work of a new saw- and flouring-mill. In 1839, however, he was able to build ten plows; and, by 1842, he was building no less than one hundred, or about two per week. He allowed each plow to be its own salesman and demonstrator. The story of how he did this has been told by a man then resident in Grand Detour, John M. Gould, who later, for a time, was John Deere's partner.

"At the time he succeeded in getting his first plows to scour," Mr. Gould wrote, "the government lands in that part of the country were subject to entry. Previous to that time, nearly all the farms in that vicinity were held under preemption laws, or claims." The land office, he goes on to say, was located at Dixon, half a dozen miles away, and, at the time of the land sales, large numbers of farmers from far and near passed through Grand Detour on their way to establish legal ownership of the farms on which, heretofore, they had been virtually squatters. At such times, John Deere made it his custom to have one or more plows on exhibit in front of his shop. On top of the beam appeared the legend, "Self-Polisher." Mr. Gould records a remembered conversation, typical of many others. A farmer, driving through, stopped for a look at the plows. He read the legend.

"Self-polisher be damned!" he exploded. "There never

was a plow made that will scour in this prairie soil."

John Deere heard him, and came out front. "Stranger," he said, "where do you live?"

The farmer spat over the wagon wheel, "Up Bloomingville way."

"Will you," Deere said, "take one of these plows home with you, and try it? And if it does not scour, will you let me know? I will send for it, and get it without any cost to you."

"Aye? And if it *does* scour?"

"I ask \$10 for it."

Many of the farmers to whom this proposition was put, Gould says, begged off, saying, "I don't want to be bothered with anything of that kind, Mr. Deere." But now and then a man consented. Through these, his earliest customers, Deere's reputation gradually grew. Later, when the business was increasing pretty rapidly, he made a practice of loading several plows on a wagon and peddling them from farm to farm; or, when that was too arduous, he would leave several with a well-located farmer, who was asked to sell them and take a commission for his trouble.

John Deere was not satisfied with these early plows. He was continually testing them in different soils, under different conditions, in various parts of the counties roundabout. Says Gould, "Mr. Deere, in his early experience, would make a plow, then go out and give it a trial and, if it did not work, he would take it to pieces and change the shape and try it again." It was perhaps in the shaping of the moldboard that John Deere's ingenuity, skill, and perseverance were evidenced best. Nobody else was so thoroughly convinced as he, nor did anybody else work so hard to prove, that successful scouring depended, not

only on the kind of metal used, but also on the shape. This idea he wrestled with till he pinned both shoulders to the mat. Quite often, a wide-eyed small boy rode with him on these early test trips and held the plow for him, or drove. The blacksmith's son, Charles, got his first acquaintance with the business of manufacturing plows when the top of his head was still almost too low to reach above the handles of the plow . . .

At the outset, John Deere seems to have continued using sawmill saws for the steel parts of his plows. There was practically no other source of steel readily available to him at that time. Indeed, getting even iron was sometimes a good deal of a chore. Once, Gould says, he had to drive a one-horse spring wagon all the way to Springfield for it, that being the nearest place where any was to be had. Steel of the kind and shape he wanted was nearly unobtainable in this country. Most men would have let that fact beat them. Not John Deere. He entered into a lengthy correspondence with the representatives of an English firm, Naylor & Co., and persuaded them to have cast steel rolled for him in shape for cutting the moldboards. This, the first steel of the kind ever rolled, arrived after many months. It came in short slabs, each slab containing about enough material for half a dozen moldboards. Due to the high initial cost, and the costs of transportation, however, the price of the metal was close to \$300 per ton, a little too expensive to be built into plows for the great majority of farmers living on a frontier where cash was always hard to come by. Furthermore, there was considerable trouble due to the action of salt sea air on the metal during the crossing. The first shipment, ordered ready-polished, on arrival was found to be badly pitted by rust. John Deere resolved to make an effort to obtain

necessary supplies nearer home, and journeyed to Pittsburgh for that purpose. It is a matter of record that "the first slab of cast plow steel ever rolled in the United States was rolled by William Woods at the steel works of Jones & Quiggs in 1846, and shipped to John Deere, under whose direction it was made.*"

The blacksmith encountered the usual money difficulties in getting his infant business on its feet. Growth came faster than he could finance it, alone. He had to install horse power, presumably on the treadmill order, and later steam power. Therefore, he soon took in a partner, none other than Major Andrus, the founder and foremost citizen of Grand Detour. The articles of their partnership "aggreement" have been preserved, written in a handsome hand on foolscap. They provided, in part:

"that the said Deere and Andrus have aggreed and by these presents do aggree to become copartners together in the art and trade of blacksmithing, plough-making and all things thereto belonging at the said Grand Detour, and all other business that the said parties may hereafter deem necessary for their mutual interest and benefit . . .

"The said Deere on his part further aggrees that he will furnish the shop and out-buildings belonging thereto lately occupied by none than said Deere as a Blacksmith shop . . ."

"The said Deere" also agreed "to employ his whole time in the business of the copartnership," as did "the said Andrus," and each agreed at all times to "faithfully exercise his best skill and ability to promote the interest of the copartnership." Andrus furnished cash capital; Deere furnished "what stock he has now on hand and other materials at a fair valuation and also a sufficient amount of cash capital to make up the same amount . . . as furnished by the said Andrus." March 20, 1843, was the date of this document.

*James Moore Swank, "History of the Manufacture of Iron in All Ages," The American Iron & Steel Ass'n, Phila., 1892.

The agreement was twice rewritten at later dates to admit other partners, first, a certain Horace H. Paine, and again, one Oramel C. Lathrop. It was finally terminated in 1847. During its lifetime, the business had considerable growth. A plow factory of brick was built. It became a familiar sight to see Deere, Andrus, or one of their helpers marching from blacksmith shop to plow factory, or back again, with castings or finished plows over their shoulders. The partners also constructed the first foundry seen in that part of the country, using horses to drive the cupola fan; and because they did not have horses enough of their own, they borrowed from their neighbors. Once a week, they heated the metal in the cupola, and "poured." It was a sight that the majority of people in that part of the country had never seen; they used to come for miles out of curiosity to watch the process.

Probably half that
In 1846, the last full year of the Andrus and Deere partnership, about a thousand plows were manufactured. For a business of such size and prospects, John Deere decided that Grand Detour was not the best possible location.

It was too remote, he felt, from supplies and transportation. Coal had to be hauled overland, by wagon, from the mines near LaSalle, a distance of some 40 miles, over roads often hub-deep in mud. All plows sold, unless called for by customers, had to be delivered by wagon. Navigation of the Rock River by steamboat, once thought to hold promise, had not proved a success. One steamer, the *Gipsey*, did ambitiously make a trip upstream as far as Grand Detour in April, 1838, but the trip could be made safely only during short periods of high water. Another steamboat, the *Lighter*, went even further upstream in 1844, but two or three trips ended the effort. Railroads were still in the share-selling-and-hope stage, so far as

that part of the state was concerned, and the whistle of the locomotive was not to disturb the ancient peace of these prairies for several years to come.

All such considerations, and possibly others, induced John Deere to reach the important conclusion that he should locate elsewhere. He foresaw the growth of manufacturing. Oats and corn, at 8 and 10 cents a bushel, and wheat at 49 and 50 cents a bushel, were being shipped to the New England states to feed a rapidly increasing manufacturing population, and John Deere and others wondered why the West should not have its own industrial growth. Accompanied by his foreman, Robert N. Tate, he drove about looking at various possible sites, and, on one of these excursions, came to Moline on the Mississippi, of which he had already heard favorable reports. At that time, Moline was "a very nice village" with a dam and water power, and a handful of mills of various kinds. Deere decided it was the place for him. So, in 1847, the partnership was terminated. An agreement was reached as to the territory in which each man was to have exclusive selling rights, for Major Andrus was determined to continue the manufacture of plows at Grand Detour. John Deere, for his part, now a full-fledged manufacturer rather than a mere blacksmith, once more set his face toward the sunset. His removal this time, however, involved a journey of only about seventy miles.

At the time he took this step, John Deere was 43 years old. It is said that he was worth about \$8,000. This may well have been true, for an examination of property transfers in Grand Detour during the four years, 1847 to 1851, when he was winding up his affairs there, shows that he and his wife disposed of various parcels of real estate for a total consideration of \$4,200. Not great wealth, to

be sure, yet, considering the fact that he arrived in this little village with a total cash capital of \$73.73, his stay had not been entirely in vain.

Aside from material considerations, John Deere had definitely established himself as a successful designer and builder of plows of a type better suited to the work required of them than any theretofore produced. Most important of all, he knew what he wanted, and had learned how to carry on beyond the point at which he had arrived; they say that if a man has learned that by the age of forty, he has done well indeed.

Judged by later accomplishments, John Deere had barely made a start. It was his destiny to give to the world the steel plow, and to join that small company of men whose names are enrolled in history for basic contributions to the world's progress. When he left Grand Detour in 1847, the whole world and both hemispheres lay before him, a nut waiting to be cracked, and he with the hammer to crack it! . . .



It is not the purpose of the present account to go into exhaustive and perhaps tedious details concerning the later growth of the business which John Deere founded. Only a few of the high spots will be touched.

In those first years in Moline, difficulties were numerous, partly because of scarcity of funds, partly because of hazards inherent in establishing any new enterprise, and to a very considerable extent because of the lack of modern methods of travel, transport, communication, banking, credit, advertising, salesmanship. Travelers to and from Moline were served by Frink & Walker's line of four-horse stagecoaches, of the type described by the English traveler, Ruxton, who crossed the Illinois prairies in one of them in the year 1847. "It is a huge lumbering affair with leathern springs," Ruxton wrote, "and it creaks and groans over the corduroy roads and unmacadamized causèways, thump-

ing, bumping, and dislocating the limbs of its 'insides', whose smothered shrieks and exclamations of despair often cause the woodsman to pause from his work, and, leaning upon his axe, listen with astonishment to the din which proceeds from its convulsed interior."

The daily stagecoach arrived in Moline each night just a little before dark, if the roads were in average condition, and left early in the morning. It took from 36 to 48 hours to go to Chicago, and longer to St. Louis. The river was the natural route to St. Louis, but when navigation was closed, the stagecoach was the only public conveyance; a traveler bound thither from Moline, must first go north to Albany, then east to Dixon, then south through Bloomington and the central part of the state.

"To go to St. Louis in the winter," Mr. Deere once remarked grimly, "we had to go by the way of Michillimackinac!"

When the river was frozen and heavy articles were needed from a distance, they had to be freighted in by wagon. If they were brought from Chicago, it took about two weeks; if from Galena, only about half as long.

It was considerably easier, however, to distribute plows from Moline than from Grand Detour. A much larger territory could be reached. The plows were loaded on river steamers for such points as Galena, Dubuque, Burlington, Muscatine, and Keokuk, and from there, they were sent out to surrounding towns and farms by wagon.

As for banks, there were none nearer than Galena or Burlington. Even the money in use was mostly foreign, Mexican, French, or English—hard money, for the most part, but also with a scattering of dubious bank notes from Missouri, Ohio, Indiana. If exchange on St. Louis or

New York were wanted in winter, it could sometimes be bought by crossing the river and making arrangements with a certain law and land firm in Davenport; but sometimes, after ferrying across the river, it was found that even this could not be arranged, and the money bag had to be brought back. (Telephones, of course, were still unknown.) In summer, clerks on the steamboats could be trusted to handle such matters. When immediate cash was needed, perhaps to stave off an insistent creditor, there was no such thing as negotiating a routine loan. Money, if obtained at all, had to be hunted to its hiding places. One day John Deere badly needed \$200. He asked a merchant in Rock Island if the latter knew of any place where such a sum might be obtained.

"Do you know that Swede tailor in Moline?" the merchant asked. "Johnson, his name is."

"Yes. Has he got \$200?"

"No; but he has a friend just arrived from Sweden. I borrowed \$2,000 from the friend. I think he has some more . . ."

John Deere rushed back to the factory and burst in on John Gould, who was then one of his partners, and in charge of the financial end. "Tailor Johnson," he said, "has an acquaintance who has some money. Hunt him up as quick as you can and see what you can do."

Gould hunted, and found him. Then an interpreter had to be found. But the loan was negotiated; \$200 in gold, for a year, at 10 per cent interest!

Mails were slow, the postal service casual. Postage stamps, remember, were just coming into use in the United States the year John Deere moved to Moline. The post-

master was a certain Dr. Wells. He kept the office open to suit his convenience, sometimes for three or four hours a day. The plow factory rented one of the largest boxes, so located that a person could see through the front window whether there was anything in it; and if there were, and it was wanted in a hurry, a hunt for the doctor was indicated. He was likely to be found parked somewhere on a store counter, hands wound round one knee, telling stories.

"Mail?" he would say to the inquirer, "all right—" impatiently "—I'll go down and open up—presently. Now, as I was saying . . ."

If it was hard to find money to pay creditors, it was doubly hard to collect from debtors. Fairly aggressive selling methods, for that time, were used. John Gould, for instance, was sent to Iowa City in January, 1849. The legislature was in session there. He interviewed all the members, and from them secured the names of business men in various parts of the state who might serve as agents. Correspondence followed. Many of these men were signed up. Plows were then placed with them on consignment, and the agents, in turn, sold the farmers, usually on time. When asked to pay for plows sold, they were pretty likely to refuse.

"We can't afford to advance the money," was their excuse. "We have sold the plows and taken the farmers' notes. You can have the notes if you want them. But we can't cash them. You must just wait till we collect."

John Deere, in the early days, found only one exception to this universal debtor delay. He had an agent in Des Moines who, when asked to settle, counted the number of plows sold and handed over the cash at once. It was a

real pleasure to do business with that one!

For some ten years after going to Moline, the blacksmith-manufacturer continued to work at the anvil himself, not continuously of course, but persistently. He loved the feel of the heavy hammer in his hand, loved the smell and smoke of the forge fire, loved the sound of iron on iron, and the sight of flying sparks. The number of employees steadily increased, but regular pay days were something of which they had no knowledge. They bartered their labor, not for cash, but for the right to obtain goods. John Deere used to place plows for sale with merchants in the vicinity and give his workmen orders on these merchants for what they needed. At intervals, there was a reckoning-up between manufacturer and merchants. The company also maintained a boarding-house in which many of the men were boarded at a cost of from \$1.50 to \$1.75 per week. Good blacksmiths could be hired then to work ten hours a day, at wages of \$20 to \$30 per month, including board, but if an unusually skilled blacksmith were needed for fine machine work, his rate would be \$1.75 per day and he boarded himself. Carpenters were hired at \$1.50 for a 10-hour day. It was only when an employee left or was discharged, that a settlement took place, and then cash had to be raised somehow for the purpose.

The business grew, its scope expanded. In an advertisement appearing in a Moline paper on April 1, 1852, "the subscriber" (John Deere) declared that he was "prepared to furnish plows to all who may see fit to favor him with their orders—on reasonable notice, and at rates to suit the times." In the same announcement, he declared that "with the facilities for manufacturing which are had at this place, I can increase from 4,000 (the number now

manufactured) to 10,000, yearly, if necessary." And he added: "Always on hand and for sale, wholesale or retail, every variety of one and two horse Plows; all sizes of Breakers. Also a superior article of Seed Drill."

The railroad came through in 1854, and, in 1856, a bridge was completed that opened up rail traffic across the Mississippi. It did not bring at once, nor for a long time, the high-speed service of 1937, but it did simplify both passenger travel and freight transport, and greatly improved the mail service. The telegraph came at the same time. Distant parts of the country were drawing in closer, one to another. Far places were only hours apart now, whereas, before they had been separated by days or weeks. The tempo began to be more like that of our day.

Charles Deere was rapidly growing up, and came into the business in 1853. This was important. The son developed skill in financial matters, sagacity in organization and merchandising, and other management qualities which supplemented his father's skill as a mechanic and manufacturer. The older man, for instance, had been content to keep books by a rudimentary system amounting to little more than a diary. A sale was written out ("sold such-and-such to so-and-so") often in such sketchy form that it was unintelligible to anyone else. Purchases likewise. The son, however, had been to Knox College at Galesburg for a while, and at Bell's Business College in Chicago, and was able to systematize all this. Under his hand, his father's plow company, which had always been organized as a partnership or an individual enterprise, gathered speed and cohesion and came, in time, to take on the smooth-running characteristics of a modern, successful corporation . . .

Years slipped past, like flood waters in the Mississippi. The further West was filling up rapidly now, just as Illinois had been filling up when John Deere first adventured into it. As early as 1846, the historian, Francis Parkman, passing through St. Louis "on a tour of curiosity and amusement to the Rocky Mountains," had remarked on the breathless rush. Emigrants from every part of the country preparing for the journey to Oregon and California. Traders in great numbers bound for Santa Fe. Hotels crowded. Gunsmiths and saddlers kept at work till all hours. Steamboats leaving the levee nearly every day, bound up the Missouri with crowds of passengers, a majority of them farmers, going to seek out the far frontiers. And where farmers went, of course, John Deere plows went too. A farmer was pleased to have a plow made in Moline. The reputation of the skilled frontier blacksmith was penetrating to the remotest parts of the country, and even beyond the seas. And in Moline itself, as a sign that the first rough pioneering stages of the business were past, the headquarters of the company gradually came to assume a certain appropriate dignity and elegance. A writer with an astonished pen, visiting the plant in 1869, described some of the many wonders he saw. The office, particularly, aroused lyric raptures:

" . . . occupying a space of 30 x 45 feet, including an eight-foot hall which separates it from the storage department, and contains an elegant stairway leading to the second story . . . Divided into two apartments by a frosted glass partition. Ample light is admitted through double recess windows of the best French glass, and elegant chandelier gas burners depend from the ceiling for use at night. The desks were expressly designed and constructed for this office, and, together with all the woodwork and furniture, are of solid walnut. The bookkeeper's room is handsomely carpeted . . . A beautiful mantel of marbleized iron with grate underneath, though the entire office is heated by

warm air conducted from the boiler room in pipes . . . The ceilings are beautifully frescoed, and the door knobs and locks are of well plated silver . . . A large clock on the wall regulates the hours of labor . . . The most convenient and elaborate business office we have ever seen . . . not surpassed, if equaled, in the West."

Very different, this, from the village forge. But John Deere, past three-score now, his hair turning iron gray, moved easily in it and was a vigorous and commanding part of it all. As of old, his interest lay chiefly in the product, in its improvement, in the design of new implements to fill new needs and to keep abreast of demand. "Almost every year, in our long experience," his catalog of 1868 boasted, "we have discovered and applied some new feature to our Plows, enhancing their value." So it had been in the beginning. So he was determined it should continue. Once, a thousand plows a year had seemed to him a remarkable output; now more than that number were produced in a week. He stood no more in a leather apron at the anvil. If the winters were too harsh, he rode on the cars to California and enjoyed the sunshine. But that was banishment. Always, he was impatient to return, to be where he could observe the structure that he had started and watch it win new growth daily.

Wealth came to him as it grew. Naturally. He was pleased with that. He built a substantial big house on the brow of the bluff, whence he could look out over city, river, the smoke of his increasing plants. When committees came to him with a tale of church or chapel to be built, or asking a new market place for the city, or a subscription for some other worthy purpose, he was glad to be the first to give. Not a little of his money went to establish Sunday Schools, particularly in Kansas, Nebraska, Dakota, and other newer communities. His prop-

erty holdings increased outside of his own business, as was also natural. Several farms came into his possession. Substantial business blocks and several residential properties in Moline were recorded under his name. He was an important stockholder in the First National Bank, and in the Moline & Rock Island horse railway. His wealth was whisperingly guessed at half a million. Once, long since, the sunset had beckoned him with golden promises, and the promises had been kept. And yet . . . his enduring interest, the thought that he kept ahead of all others, the purpose that ever commanded his instant attention and meant more to him than the piling-up of personal profit, was the construction of new and better tools to aid in the job of American agriculture.

He started with a plow. One plow of steel. A greatly improved plow in its day. A rather simple implement in retrospect. He lived to finger through catalogs of his firm that listed implements, the very names of which would have mystified first farmers of Illinois: listing plow, subsoil plow, root-ground plow, "bluebeard steel plow," "New Deal gang," "Gopher cultivator," scarifier, Gilpin sulky . . . and, in addition, harrows of many types, potato digger, much more. If he cared, in a moment of reflection, to take credit, he could remember that he was responsible for making Moline the plow capital of the world—that his plows were shipped to every country on the face of the earth—that they were seen on the pampas of the Argentine, among bushmen of Australia, Hottentots of South Africa, moujiks of Russia. The old habit of big talk did not entirely disappear as the West began to come of age, and Mark Twain, passenger on a Mississippi steamboat, once heard with a twinkle and recorded with gusto

the remark of a stranger (perhaps one of John Deere's agents):

"You show me any country under the sun where they really know *how* to plow, and if I don't show you our mark on the plow they use, I'll eat that plow, and I won't ask for any Woostershysre sauce to flavor it up with, either.*"

The part that any individual plays in the events of his time, can never be more than roughly appraised. A man makes what contribution he can, great or small, depending on his nature and opportunity. Events follow. Would they have followed without him? Who can say? Not long ago, the writer of this brief account of the life of John Deere, had occasion to sit in the living room of Math Schumacher's modern farm home in the North Platte Valley, in far western Nebraska. Math was one of the first settlers in that part of the country. He built his "soddy" there in the year 1885, and it was the only human habitation as far as the sharpest eye could see, in a lonely country of matted buffalo grass and insufficient rain. Math brought out an old photograph of that "soddy," showing a long, low, two-windowed shack, with a round stovepipe sticking through the dirt roof, and with Math and his dog at the side, and eight or ten fat hens flocking about. Also, the picture showed the farming tools that Math, pioneer sod-buster, owned at that time. They were an axe for chewing hunks of firewood out of the tough cedar logs brought from the Wildcat Hills across the river, and a plow. It was a full twenty years after Math came before a railroad finally found its way into what is now one of the very rich, irrigated, sugar-beet-growing, cattle- and lamb-feeding areas of the country. As often happened on many lonely frontiers, it was a plow that broke the way to eventual wealth.

* Mark Twain, "Life on the Mississippi," page 431.



IN its issue of May 18, 1886, the *Moline Daily Republican* carried, on its front page, an item stating that John Deere “died at his home in this city at 8:00 last evening”—and it went on to give details of his life, work, death. The Vermont blacksmith, an old oak, had finally blown over. The pioneer had trekked to his last home. Toward the sunset still.

The city of Moline honored itself by honoring the man who had long been its foremost citizen. For the day of the funeral, Mayor Schillinger recommended that “the people of this city suspend their usual business or employment.” The City Council resolved: “We look with pride upon a grand and noble character, so successful in life, so complete in death . . .” The funeral was held at 10:00 a. m. on Thursday, the 20th, at the Congregational

Church. Flowers were banked deep around the plain casket. In middle life, his feet had trod often among purple liatris, physostegia, and the wild crimson phlox of the prairies. But on his casket, lay a bunch of calla lilies, crossed with a sheaf of ripened grain. Nearby, stood a floral plow with the inscription "John Deere" on the beam. The Reverend C. L. Morgan conducted the services, putting into words what all present knew:

"Nothing left his shop but spoke the truth, was just as represented . . . He was not a theorizer, or one who dealt in impracticable things, but in solid facts."

The service closed with the hymn, *There Is a Land of Pure Delight*.

John Deere, in life, had built his home on the brow of the bluff. In death, he was laid away on the brow of the bluff—in Riverside Cemetery, as they call it. He loved wide landscapes. And the place of his burial is where one may look out over the town, the smoke of factories, the great river. Where one may see many sunsets . . .



Some men, dying, leave behind a flashing trail of remembered incidents that photograph character, focus personality. Not so John Deere. Revealing stories after half a century are curiously few. The story of his life was written chiefly in his works. His fountain pen was a hammer. His paper was sheet steel. But the man, living, was a memorable figure. Despite the fact that his true biography was a plow, he himself does not altogether escape us.

Physically, he was a lion. Not unusually tall. Only about six feet. But he was broad of shoulder, powerful, tireless. Said one who knew him well: "He had the muscles of a giant, brains enough to successfully command an army, and a heart that never shrank within him." His features, especially in later life, were carved in the granite of decision.

An outstanding characteristic from that day as a boy when he ground bark for a tanner, to the day of his death, was his industriousness. Seldom was he idle for a minute. John Gould clerked and slept in Dana & Throop's store, almost across from John Deere's blacksmith shop in Grand Detour. "I," wrote Gould, "have heard his hammering in the morning, when I was in the store in bed, at four o'clock, and at ten o'clock at night; he had such indomitable determination to do and work out what he had in his mind."

His reasoned rule of life was simple, terse enough to

have been carved for an epitaph on his tombstone. Not long before his death, he expressed it in this wise to a friend:

“It is a source of consolation to me to know that I never willfully wronged any man and that I never put on the market a poorly-made implement.”

His manner, especially in the later years of his life, was dignified. So dignified that some people, knowing him only as they saw him on the streets, imagined him to be cold, stern, austere. He was very far from that. His dignity was only the protective shell around a warm heart. A thin shell, easily broken. To anyone who had any claim on his loyalty, he was completely loyal. To anyone who had a claim on his charity, he was more than charitable. He was not one to obtrude offers of help officiously. Of an independent disposition himself, he honored independence in others. The story is told of a workman who, when he first came into John Deere's employ, rented a house belonging to John Deere. Later, he bought a house elsewhere on a very small down-payment. It was a heavy load for him to carry. Mr. Deere realized how heavy; and he was deeply interested. Often in passing through the shop, he would stop for a chat with the man; and almost always before leaving he would say:

“Have you got that house paid for yet, Dick?”

And once, as if he could no longer restrain himself, he leaned over and whispered: “Dick, if you do need any help on that house, don't fail to let me know.”

Incidents are revealing. But a man, after all, is known best by his works. John Deere lived at that critical hour when agriculture was just beginning to turn from hand-power, and from animal-power of limited efficiency, to

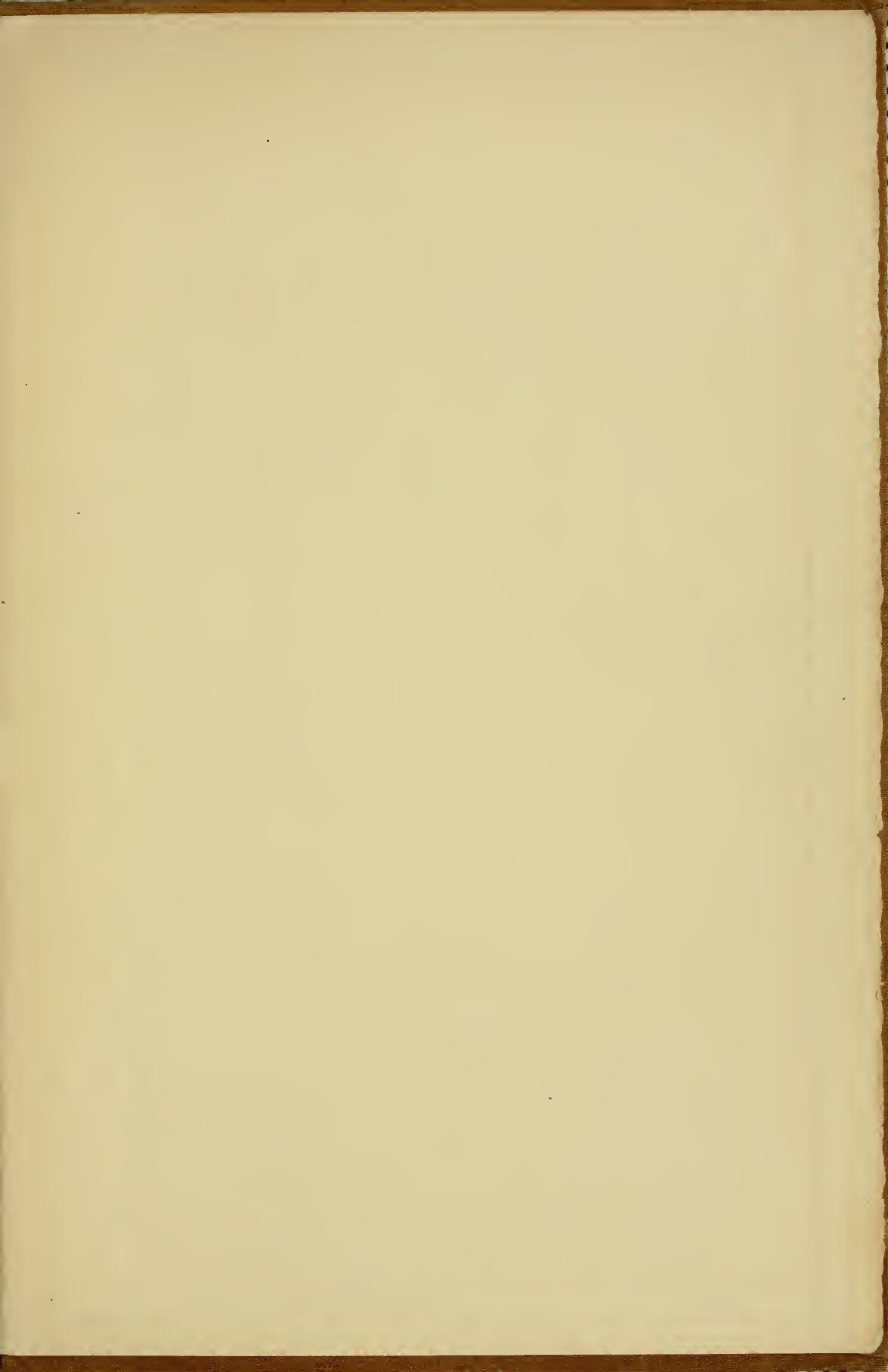
machine methods. Old-fashioned makeshift plows, to be sure, did continue in use for many years after his steel plow had proved its worth, just as old-fashioned cradles continued to be used in the grain harvest for many years after the invention of the reaper. Other ancient methods survived, just as some of them do to this very day. But the main tide had turned. Soon, everywhere, there were to be shiny harvesters and threshers, whirring mowing machines, great combines, corn pickers, tractors, ensilage harvesters, disk harrows, plows and tillers, rotary hoes, stalk cutters . . . single machines doing the work of twenty men . . . releasing labor from the drudgery and slave aspect of farming . . . leaving great numbers free to engage in producing articles of manufacture and commerce . . . extending the limit of commodities available for human consumption . . . increasing leisure . . . bringing to pass, in short, an agricultural revolution in which the last word has not yet been written. We can see what it means when we are told that, without modern machinery, the production of the 1933 wheat crop alone would have required every man, woman, and child in the United States, and millions more besides.

Much of all this came after John Deere's time. In the beginning of it, in the setting of the sails for the long voyage—he was a mighty figure.

No farming implement is more essential than the plow. It was the plow in modern form that his genius gave to the world.

That achievement must be reckoned one of the major accomplishments in the agricultural revolution.

For any man, that is enough . . .

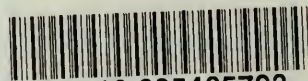


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